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Terry Rudnick

TO CATCH A KOKANEE

BY
TERRY RUDNICK

What has a soft mouth, forked tail, silver sides and deep-red flesh? If you said "blueback," "silver," "silver trout," "sockeye," "landlocked salmon" or "redfish," you were right.

The kokanee goes by all of these names and more, and whatever you call it, it's one of Washington's most popular game fish. The kokanee, a sockeye salmon that spends its entire life in fresh water, rather than migrating to sea like other Pacific salmon, is available to anglers in lakes on both sides of the Cascades.

Typical adult kokanee measure 8 to 15 inches long and weigh a quarter of a pound to a pound and a half, but they often get much larger than that. In Pierce County's American Lake, for example, kokanee of 15 to 18 inches aren't uncommon. The state-record kokanee, caught from Stevens County's Deer Lake in 1980, weighed 4 pounds, 13 ounces and

measured more than 20 inches. The world-record kokanee weighed 6 pounds, 9 ounces and was caught from Northern Idaho's Priest Lake during the summer of 1975.

Kokanee feed primarily on plankton, with microscopic animals known collectively as zooplankton making up the largest share of their diet. They strain these small critters from the water through highly developed strainers in their gills.

Because kokanee prefer their meals in tiny bites, anglers use such small baits as maggots, kernels of white corn and short pieces of worm to catch them. Artificial lures used for kokanee fishing also are small. Spoons and spinners one to one and a half inches long are favored.

In spring, when most Washington lakes are still relatively cool from top to bottom, kokanee are usually scattered, and that's when most anglers troll for

their fish. A typical trolling rig for kokanee consists of a small, flashy, brightly colored spoon or spinner, fished behind a flasher or string of shiny trolling blades. Because the lures themselves are quite small, the flasher or trolling blades are needed to attract fish from some distance away.

Favorite kokanee lures include the Dick Nite spoon, Triple Teazer, Martin Red Magic, Kokanee Killer, Luhr Jensen Needlefish and Wedding Ring spinner. Silver, red, fluorescent orange or combinations of these three colors often work best. Many trollers add a maggot, one or two kernels of white corn or a piece of worm to the lure's hooks for added appeal. The small spoon or spinner, by the way, is usually fished about 18 to 30 inches behind the larger flasher or string of attractor blades.

Kokanee have extremely soft mouths, and they often tear loose from the hook



when they strike or during the first few seconds of the battle. To help cut down on the number of fish lost this way, many kokanee trollers use a short length of surgical tubing between the attractor and lure. The stretchy tubing gives when the fish strikes, absorbing some of the shock and keeping the fish from tearing loose. The short length of tubing is known as a "snubber."

A key to successful kokanee trolling lies in locating the fish, and that means finding the right depth. Find one kokanee at, say, 30 feet, and chances are you'll find more within a foot or two of that depth. Usually the magic depth will be some distance below the surface, and trolling 20, 30 or 40 feet deep can't be accomplished with standard monofilament line and no additional weight. So most kokanee trollers use one of three methods to get their lures down into the fish's "strike zone." They use leaded line, diving devices or downriggers. All three are effective, and each has its dedicated followers.

Trolling with leaded line probably is the most popular of the three deep-trolling methods, especially on the kokanee waters of eastern Washington. Lead-core line takes the attractor-and-lure rig down quickly without the need for additional weight.

Leaded line is usually color-coded, changing hue every 10 or 20 feet, so an angler can always be sure of exactly how much line he has payed out. A person trolling "two colors deep" can, after hooking a fish, let out the same amount of line again with assurance that he's fishing the same depth at which he hooked the previous fish. Hooking that first one at two colors deep usually means that continued trolling with two colors of line out will continue to produce.

A diving device or "diver," such as a Deep Six, Pink Lady or Dipsy Diver, "digs" down into the water, taking the lure with it to the desired depth. A diver is attached directly to the line, a short distance up from the attractor. Diving devices are designed to "release" when a fish strikes, changing the planing angle and allowing the fisherman to reel his line to the surface.

The third method of getting a kokanee rig down to the desired depth is by way of a downrigger, a piece of equipment that has greatly changed sport fishing in the past 10 years. The downrigger line has a heavy weight at the end, and the

fishing line is attached to the weight by way of a special release device. When a fish strikes, the tension triggers the release, and the fishing line, with fish still attached, becomes totally independent of the downrigger line. The angler can play his fish without any additional weight between him and his quarry, while the heavy weight hangs in the water, out of the way.

Many kokanee fishermen feel that the downrigger is the best of the three deep-trolling methods for kokanee because it allows them to fish their lure at exactly the same depth each time they let out their line. The heavy downrigger weight takes the lure straight down, so that no allowance has to be made for angle or belly in the line. If the depth indicator on the downrigger says you're fishing at 20 feet, you're fishing at *exactly* 20 feet.

As the state's kokanee lakes warm in June and July, the fish begin to congregate, sometimes in large schools of several hundred fish. That's when still-fishing becomes especially productive.

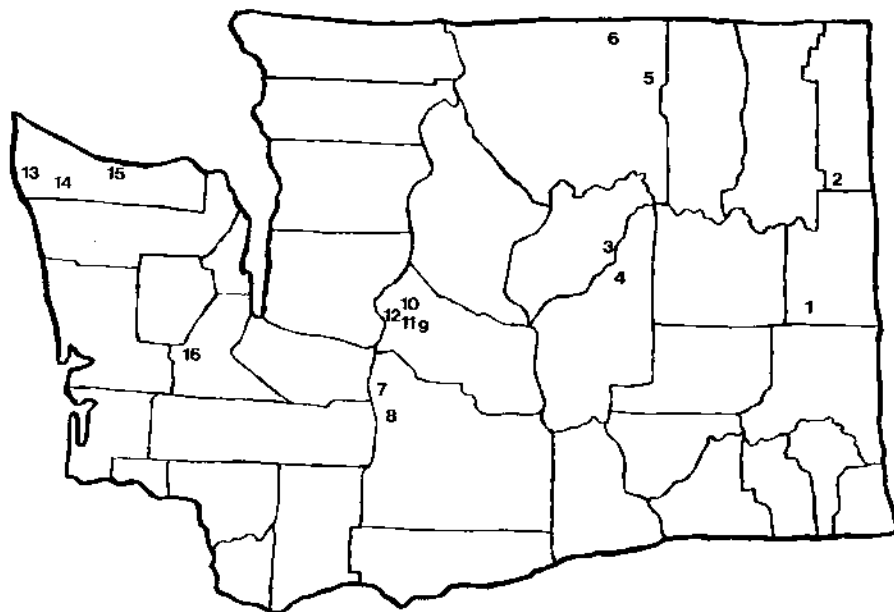
Many anglers like to still-fish for their kokanee rather than troll because still-fishing provides a sort of personal, one-on-one, face-to-face quality to the sport that isn't quite so pronounced in trolling. A kokanee that strikes a trolled lure usually is either hooked or it isn't. But in

still-fishing for these sometimes finicky, sometimes soft-biting fish, many fishermen feel that stealth, patience, reflexes and other skills become more important in determining whether a fish is hooked or missed, and they enjoy the challenge.

Ask a number of kokanee still-fishermen about tackle, and most of them will advise you to keep it light. Kokanee are notorious nibblers when it comes to taking still-fished bait, so the more sensitive the tackle, the better the chance of detecting the strike and doing something about it.

A light rod of fiberglass or graphite, with a sensitive tip, is standard on kokanee grounds, because stiffer, huskier rods simply aren't capable of telegraphing the tender strike of a finicky kokanee. For the same reason, many kokanee still-fishermen use little or no weight to help take the bait down to the desired depth. Heavy sinkers provide too much drag on the line, and a kokanee will nibble and be gone without the angler knowing anything happened.

Most kokanee fishermen do their still-fishing with hooks of size 6 or 8, but not just any ol' size 6 or 8 hook will do. Kokanee have a special fondness for red, so most still-fishermen either wrap red thread around the eye of the hook or buy specially treated hooks that already have a dab of red or pink near the eye. Mac's



Kokanee lakes with bonus limits: 1, Chapman; 2, Horseshoe; 3, Banks; 4, Billy Clapp; 5, Bonaparte; 6, Palmer; 7, Bumping; 8, Rimrock; 9, Cle Elum; 10, Copper; 11, Kachess; 12, Keechelus; 13, Ozette; 14, Pleasant; 15, Sutherland; 16, Summit.

Glo Hooks are particularly popular among kokanee fishermen.

The idea behind still-fishing for kokanee is to drop a hook baited with a maggot or two, a couple of kernels of white corn or a small piece of worm down to the right depth; wait patiently with a finger on the line to detect the slightest strike; and be ready to set the hook if that light strike occurs. As with trolling, a key to still-fishing for kokanee is to find the depth at which the fish are feeding, because most fish will be caught at the same depth.

Still-fishing for kokanee is challenging enough during daylight, but night fishing has become popular on at least one eastern Washington kokanee lake. Anglers at Deer Lake, north of Spokane, often make good catches of chunky kokanee from late evening right on through the night. The Glo Hooks mentioned earlier are luminescent, and when charged with a flashlight or electronic flash unit they glow brightly in the dark, drawing fish to the bait even in the blackness of midnight.

Armed with the basic knowledge of what it takes to catch these hard-fighting little landlocked salmon, the

would-be kokanee fisherman's next job is to find a place to catch them. That's not a big problem, because fishable kokanee populations are available in dozens of lakes all over the Evergreen State.

Some of the best places to try kokanee fishing for the first time — or any time — are the many lakes that have a bonus kokanee limit. The 1983 *Washington Game Fish Seasons and Catch Limits* pamphlet lists 16 of these bonus lakes, where additional kokanee may be caught and retained as part of the daily trout limit.

These bonus lakes are Chapman Lake in Spokane County; Horseshoe Lake in Pend Oreille County; Banks and Billy Clapp lakes in Grant County; Bonaparte and Palmer lakes in Okanogan County; Bumping and Rimrock lakes in Yakima County; Cle Elum, Cooper, Keechelus and Kachess lakes in Kittitas County; Ozette, Pleasant and Sutherland lakes in Clallam County and Summit Lake in Thurston County.

At all but three of these lakes, the daily limit is 16 "trout," as long as at least eight of them are kokanee. At Billy Clapp and Banks lakes, anglers may keep 13 fish per day, providing at least

eight are kokanee. At Bumping Lake, anglers may catch up to 33 "trout" per day, but at least 25 of them must be kokanee.

Of the 16 lakes with bonus kokanee limits, there are Game Department public access sites on Horseshoe, Banks, Billy Clapp, Bumping, Keechelus, Sutherland and Summit lakes.

As with other game fish, anglers 16 years old and over must have a valid fishing license in their possession to fish for kokanee in Washington lakes. As with rainbows and other trout, the minimum size limit on kokanee is six inches.

Besides being available to anglers throughout most of the state and having a reputation as a spunky fighter, the kokanee has one more thing going for it that helps to endear it to Evergreen State fishermen. The term "gourmet's delight" is used liberally in angling circles, but in the case of the kokanee it's an understatement. If kokanee aren't the sweetest-eating coldwater fish in Washington, they rank right up there near the top of the list. They're excellent baked, fried, broiled or any other way the cook might prepare trout for the table, and the kokanee's rich, moist, red flesh is ideal for the smokehouse. □

Lake Whatcom's Landlocked Sockeye

by Jay Stockbridge

It may have been the damming of Brannian Creek that blocked the migration of sockeye salmon runs into and out of the Lake Whatcom watershed. Or it may have been an event in the more remote geologic past, when the steep falls at the creek's mouth formed, setting up a nearly impassable barrier to the sockeye on their way upstream to spawn. But whatever the specific cause, it led to the evolution of a landlocked sockeye population in Lake Whatcom that has become the backbone of one of Washington's most successful sport fisheries.

Lake Whatcom is one of many lakes in

Pacific Coast drainages of North America, Siberia and Japan where kokanee populations evolved. Almost all major drainages with large sockeye runs have kokanee populations. And in recent years, kokanee derived from these naturally occurring runs have been transplanted to many other lakes.

Kokanee spend their entire lives in fresh water. Biologists believe they are descendants of stay-at-home sockeye salmon — that small percentage of aberrant fish found in almost any normal sockeye population that prefer to remain in fresh water, rather than migrate to sea

like most of their species. Under normal conditions, these fish make up an insignificant minority of the population.

But once in a while, something happens to prevent the migration of a sockeye run. Natural or human-caused events, such as a landslide or the construction of a dam, can create an impassable barrier — a waterfall too high for the fish to negotiate, for example, or a shallow stretch where the water temperature becomes too warm at migration time for the cold-water-loving salmon.

These conditions favor the abnormal, non-migratory segment of the popula-



These mature kokanee, collected by biologists for artificial spawning, are small replicas of mature sockeye salmon.

tion, which is already adapted to a landlocked existence. These fish pass on their freshwater habits to their offspring. Free from competition with their sea-run relatives, they and their descendants flourish as a resident kokanee population.

In their behavior and life cycle, kokanee are small-scale replicas of sea-run sockeye. Like salmon, they prefer cool water; 50 to 55 degrees Fahrenheit is ideal. Temperatures above 60 degrees kill large numbers of kokanee, especially younger fish. For this reason, permanent kokanee populations are only found in deep, cool lakes.

Worldwide, kokanee live from two to seven years, although a four-year cycle predominates in their original range in North America. How large they grow depends largely on the abundance of the microscopic creatures, or zooplankton, on which they feed and on the numbers of kokanee competing for them. In Lake Whatcom, the fish reach 8 to 16 inches at maturity; in American Lake, where conditions are ideal for growth, planted Lake Whatcom-stock kokanee grow to be up to 18 inches long.

Fish from the Lake Whatcom strain spawn at three or four years of age. On the average, fish in native kokanee populations from farther north and at higher elevations tend to mature at a later age, and those from farther south tend to mature earlier.

Like sockeye salmon, most kokanee spawn sometime between late summer and early winter. The exact time depends on the race of fish and on conditions in the lakes they inhabit. Cool water is criti-

cal for spawning — kokanee require temperatures between 42 and 55 degrees. The Lake Whatcom race spawns from late October to December.

Like sockeye, kokanee have a highly developed homing instinct and will re-

turn to spawn at the place where they hatched or were planted. They show the bright red body and green head of a spawning sockeye. They lay their eggs in shallow depressions or redds that the females dig with their tails in the gravel beds of a lake's tributary or outlet streams, or in suitable shoreline gravel of the lake itself, usually over spring seepage.

The Lake Whatcom fish hatchery, mainstay of the state's kokanee-planting program, has been in operation since the turn of the century, when the Bureau of Commercial Fisheries employed it primarily as a sockeye salmon egg-eyeing station. Whatcom County inherited the facility and ran it until 1933. Then it turned the hatchery over to the state's newly created Department of Game, which has operated the facility ever since. By the time the department took charge, the hatchery was already supporting a kokanee program, which the department has expanded in the intervening years.

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A biologist artificially spawns kokanee from Thurston County's Summit Lake. The fertilized eggs will be hatched and the young fish raised in a fish hatchery until late spring, when they will be returned to Summit Lake.

Landlocked Salmon

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Egg takes from spawning kokanee at Lake Whatcom have ranged from 1.5 million to 22.5 million eggs. In some cases the eggs are kept at the hatchery just long enough to "eye up," and then they're planted in the gravel of selected lakes and streams to develop and hatch naturally.

In most cases, though, the eggs are allowed to hatch in the hatchery. The young fish are reared until about late May, when they are one to one and a half inches long. This is when the numbers of zooplankton begin to increase dramatically in the lakes and can readily support the large numbers of newly planted fish.

The one notable exception to this schedule is the group of fish destined for planting in Lake Chelan. These young kokanee are reared at the Chelan hatchery until July, when they are about three inches long — big enough to feed on the mysis shrimp population that inhabits that lake.

Kokanee thrive in large, deep lakes where the water remains relatively cool

throughout the year. In summer, when the surface water begins to warm up, kokanee will remain in deeper, cooler water, feeding on plankton, which forms a layer perhaps 10 feet deep.

Relatively few lakes meet all the conditions necessary to support their own self-sustaining kokanee populations. Among those that do are Banks Lake in Grant County, Sutherland in Clallam County, Cavanaugh in Skagit County, Stevens in Snohomish County, Wenatchee in Chelan County and Sawyer in King County.

To support a self-sustaining kokanee population, a lake needs not only the right temperature and feeding environment, but it must also provide the right conditions for spawning. Some lakes don't have suitable gravel in tributary streams or along shorelines. In other cases, spawning streams may dry up or be subject to other disturbances that would make it impossible for the eggs to hatch.

Most kokanee lakes require regular, or at least supplementary, plants to maintain a sufficient population to support a thriving fishery. Among these are a

number of reservoirs, most in Kittitas County, where the water levels are periodically drawn down, raising the water temperature to a point where kokanee can no longer survive.

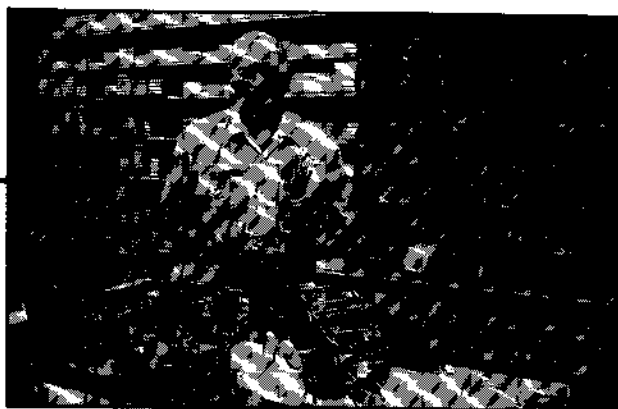
Over the years, the Department of Game has supplied Lake Whatcom kokanee to other states that have wanted to start or supplement their own kokanee fisheries. Our kokanee have gone to Oregon, California, Nevada, Utah, Idaho, Michigan, West Virginia, South Carolina and Ontario, Canada. This kind of cooperation among resource agencies is more than a matter of altruism, as kokanee anglers here recently learned.

In 1980 a parasite outbreak decimated Lake Whatcom's kokanee population. It could have seriously hurt kokanee fisheries in most parts of the state for years to come. But Washington fishery biologists were able to supplement the normal egg take that year with some Lake Whatcom-stock eggs from Colorado and Idaho, as well as from Summit Lake and Lake Chelan's Twenty-five-mile Creek. So interstate cooperation helped our own kokanee program get through a couple of rough years. Last fall, biologists at the Lake Whatcom hatchery recorded an egg take of 10 million — enough to put the program back on track.

All in all, Washington's kokanee management program has provided anglers with many benefits and few, if any, drawbacks. Kokanee are hardy fish; they are less susceptible to disease than trout and less subject to predation by birds, since they feed far below the water's surface. And because kokanee survive well — even to the point of overpopulating some lakes — they can sustain heavy fishing pressure in the form of bonus limits. In fact, heavily fishing a kokanee population allows the remaining fish to grow larger by reducing competition for the food supply.

The kokanee's hardiness makes it possible for them to survive in large numbers when they are planted as eyed eggs or fry. In contrast, trout must generally be reared longer, at much greater expense, to provide satisfactory survival after planting.

But most important, kokanee are popular with anglers. They provide good sport and are often easy to catch with bait and artificial lures. Their firm, red, tasty meat makes them a fine table fish. And after all, aren't these the things that really count? □



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